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EXAMINER	
MATTIS, JASON E	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/988,467	SCHURIG ET AL.	
	Examiner	Art Unit	
	JASON E. MATTIS	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14 and 17-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14 and 17-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendment filed 8/27/08. Claims 13, 15, and 16 have been cancelled. Claims 1-12, 14, and 17-39 are currently pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda (U.S. Pat. 6109971) and Rossetti et al. (U.S. Pat. 6420963 B1).

With respect to claim 1, Binder discloses a system **(See column 7 line 35 to column 8 line 6 and claim 40 of Binder for reference to a communication system)**. Binder also discloses a cable carrying data in a first section and power in a second section parallel to the first section **(See column 7 line 20 to column 8 line 6 and Figures 7-8 of Binder for reference to a wire transmitting both data and power in parallel)**. Although Binder discloses end connectors for the cable terminating power

and data sections of the cable and connecting them to a device **(See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to first connections from the wire line to a network node with the connection terminating both the power and data signals at the network node)**, Binder does not explicitly disclose a first one of the first end connectors terminating a first end of the first section and a second one of the first end connectors terminating a first end of the second section. Binder also does not specifically disclose that the network is an environmentally hardened network and the connectors are configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions.

With respect to claim 1, Vadlakonda, in the field of communications, discloses a cable carrying both power and data in parallel and having both a power connector and a separate data connector to connect power and data signals from the cable to a device **(See column 7 lines 24-35 and Figure 4b of Vadlakonda for reference to a cable including a six pin connector 101 having separate power pins and signal pins to separately connect power and data signals from the cable to a device)**. Using a power connector and a separate data connector has the advantage of allowing power and data signals carried within a cable to be separately and independently coupled to different parts of a device.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Vadlakonda, to combine using a power connector and a separate data connector, as suggested by Vadlakonda, with the system and method of Binder, with the motivation being to allow power and data signals

carried within a cable to be separately and independently coupled to different parts of a device.

With respect to claim 1, Rossetti et al., in the field of communications, discloses an environmentally hardened network with connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions **(See column 4 lines 24-66, column 5 line 65 to column 6 line 9, and Figures 4 and 6 of Rossetti et al. for reference to an environmentally hardened network with connectors that provide protection against environmentally harsh conditions including EMI shielding and weather protection)**. Using an environmentally hardened network with connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions has the advantage of allowing network components to operate unhindered in an outdoor environment.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rossetti et al., to combine using an environmentally hardened network with connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions, as suggested by Rossetti et al., with the system and method of Binder and Vadlakonda, with the motivation being to allow network components to operate unhindered in an outdoor environment.

With respect to claim 2, Binder discloses using wire of sufficient gauge to support current sufficient to supply a plurality of nodes of the network including the first

node **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to one central device 70d being used to supply power to other nodes though the wire, as shown in Figure 8, meaning the wire inherently must be of sufficient gauge to support current sufficient to supply the plurality of other nodes)**.

4. Claims 3, 12, 23-27, 30, 31, 33-35, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda and Rossetti et al. and in further view of Hosaka et al. (U.S. Pat. 6448500 B1).

With respect to claim 23, Binder discloses a network comprising a first node including a data connector and a power connector **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a network including a node 70 including both a data and power connector)**. Binder also discloses a cable including a first portion configured to carry data and a second portion configured to carry power **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a wire transmitting both data and power in parallel)**. Although Binder discloses connectors that terminate the first portion and the second portion with connector being coupled to the data and power connector **(See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to connections from both the data and power parts of the wire line to the network node with the connectors terminating both the power and data signals at the connectors of the network node)**, Binder does not explicitly disclose separate first and second connectors that terminate the first and

second portions and couple to data and power connectors respectively. Binder does not specifically disclose the cable comprising a weather resistant outer sheath surrounding the first and second portions. Binder also does not disclose using at least four unshielded twisted pairs of wires for the data and at least two insulated wires for the power.

With respect to claim 33, Binder discloses a method comprising coupling connector of a cable to a data connector of a network node and coupling connector of the cable to a power connector of the network node **(See column 7 lines 35-47 and Figure 7 of Binder for reference to connectors of a wire line with the connectors terminating at connectors of the network node)**. Binder also discloses the cable including a first portion to carry data and a second portion to carry power **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to the wire having first and second portions to transmit data and power in parallel)**. Binder does not explicitly disclose separate first and second connectors that terminate the first and second portions and couple to data and power connectors respectively. Binder also does not specifically disclose the cable comprising a weather resistant outer sheath surrounding the first and second portions. Binder further does not disclose using at least four unshielded twisted pairs of wires for the data and at least two insulated wires for the power.

With respect to claim 37, Binder discloses a method comprising receiving data and power from a cable having a first portion to carry the data and a second portion to carry the power **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder**

for reference to a wire having first and second portions to transmit data and power in parallel between nodes of a communication system). Binder also discloses a connector terminating the first and second portions **(See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to connectors of the wire line with the connectors terminating at connectors of the network node)**. Binder does not explicitly disclose separate first and second connectors that terminate the first and second portions and couple to data and power connectors respectively Binder also does not specifically disclose the cable comprising a weather resistant outer sheath surrounding the first and second portions. Binder further does not disclose using at least four unshielded twisted pairs of wires for the data and at least two insulated wires for the power.

With respect to claim 23, 33, and 37, Vadlakonda, in the field of communications, discloses a cable carrying both power and data in parallel and having both a power connector and a separate data connector to connect power and data signals from the cable to a device **(See column 7 lines 24-35 and Figure 4b of Vadlakonda for reference to a cable including a six pin connector 101 having separate power pins and signal pins to separately connect power and data signals from the cable to a device)**. Using a power connector and a separate data connector has the advantage of allowing power and data signals carried within a cable to be separately and independently coupled to different parts of a device.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Vadlakonda, to combine using a power

connector and a separate data connector, as suggested by Vadlakonda, with the system and method of Binder, with the motivation being to allow power and data signals carried within a cable to be separately and independently coupled to different parts of a device.

With respect to claim 30, Binder does not disclose using plugs and receptacles that interlock with a secure mechanical clasping.

With respect to claim 31, Binder does not disclose the connectors having protective housings that shield contact surfaces from dirt moisture and EMI.

With respect to claim 38, Binder does not specifically disclose the connectors being configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions.

With respect to claims 23, 30, 31, 33, 37, and 38, Rossetti et al., in the field of communications, discloses an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions **(See column 4 lines 24-66, column 5 line 65 to column 6 line 9, and Figures 4 and 6 of Rossetti et al. for reference to an environmentally hardened network with connectors that provide protection against environmentally harsh conditions including EMI shielding and weather protection)**. Using an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions has the advantage of allowing network components to operate unhindered in an outdoor environment.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rossetti et al., to combine using an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions, as suggested by Rossetti et al., with the system and method of Binder and Vadlakonda, with the motivation being to allow network components to operate unhindered in an outdoor environment.

With respect to claim 3, the combination of Binder, Vadlakonda, and Rossetti et al. does not specifically disclose a plurality of unshielded twisted-wire pairs to carry data.

With respect to claims 3, 23, 33, 37, and 38, Hosaka et al., in the field of communications, discloses a cable including at least four unshielded twisted-wire pairs to carry data and two insulated wires to carry power **(See column 1 lines 32-48 and Figure 4 of Hosaka et al. for reference to a cable including six unshielded twisted pair wires 31 and two insulated power supply pair wires 32)**. Using a cable including at least four unshielded twisted-wire pairs to carry data and two insulated wires to carry power has the advantage of allowing multiple physical data channels to be implemented using a single cable such that the bandwidth of the cable is increased.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Hosaka et al., to combine using a cable including at least four unshielded twisted-wire pairs to carry data and two insulated wires to carry power, as suggested by Hosaka et al., with the system and method of

Binder, Vadlakonda, and Rossetti et al., with the motivation being to allow multiple physical data channels to be implemented using a single cable such that the bandwidth capacity of the cable is increased.

With respect to claims 12 and 24, Binder discloses physical layer transceivers at the nodes configured to operate over the UTP wiring pairs in full duplex switched packet transmission mode **(See column 3 lines 6-25 and claim 40 of Binder for reference to the network including transceivers that operate over the copper twisted pair wiring in a full duplex packet transmission mode)**.

With respect to claim 25, Binder discloses the first node including a switch circuit and a plurality of physical layer transceivers configured to selectively connect different ones of the pairs **(See the abstract of Binder for reference to the node being a router meaning it inherently must include a switch selectively connecting different pairs of transceivers to route data from an input port to an output port)**.

With respect to claim 26, Binder discloses that the first node includes a router **(See the abstract of Binder for reference to the node being a router)**.

With respect to claim 27, Binder discloses the first node including a power supply configured to provide power for the second portion of the cable **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to node 70 including power supply 41 to provide power to the second portion of the wire)**.

With respect to claims 34 and 35, although the combination of Binder, Vadlakonda, Rossetti et al., and Hosaka et al. does not specifically disclose deploying

the cable underground and/or above the ground, deploying cables underground and/or above the ground is old and well known in the art of communications.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda, Rossetti et al., and Hosaka et al. and in further view of Freeman et al. (U.S. Pat. 5461195).

With respect to claim 4, the combination of Binder, Vadlakonda, Rossetti et al., and Hosaka et al. does not disclose using an insulating sheath.

With respect to claim 4, Freeman et al., in the field of communications, discloses using protective gel sheathing for UTP pairs **(See the abstract and column 12 lines 15-24 of Freeman et al. for reference to using protective gel sheathing on twisted pair wiring)**. Using protective gel sheathing for UTP pairs has the advantage of helping eliminate shorts caused by moisture contact **(See the abstract of Freeman et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Freeman et al., to combine using protective gel sheathing for UTP pairs and connectors, as suggested by Freeman et al., with the system and method of Binder, Vadlakonda, Rossetti et al., and Hosaka et al., with the motivation being to help eliminate shorts caused by moisture contact.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda, Rossetti et al., Hosaka et al., Freeman et al, and in further view of Lemke (U.S. Pat. 4800236).

With respect to claim 5, the combination of Binder, Vadlakonda, Rossetti et al., Hosaka et al., and Freeman et al. does not disclose foil sheathing and a drain wire.

With respect to claim 5, Lemke, in the field of communications, discloses a cable with foil sheathing and a drain wire **(See column 7 lines 25-44 of Lemke for reference to a cable with foil sheathing and a drain wire)**. Using foil sheathing and a drain wire has the advantage of protecting a cable against outside interference.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Lemke, to combine using foil sheathing and a drain wire, as suggested by Lemke, with the system and method of Binder, Vadlakonda, Rossetti et al., Hosaka et al., and Freeman et al., with the motivation being to protect a cable against outside interference.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda, Rossetti et al., Hosaka et al., Freeman et al., Lemke, and in further view of Lhota (U.S. Pat. 6399883 B1).

With respect to claim 6, the combination of Binder, Vadlakonda, Rossetti et al., Hosaka et al., Freeman et al., and Lemke does not disclose including a suspension line bound to the cable.

With respect to claim 6, Lhota, in the field of communications, discloses a cable including a suspension line **(See column 2 lines 45-64 of Lhota for reference to using a plastic suspension line for a cable)**. Using a suspension line has the advantage of giving a cable extra support.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Lhota, to combine using a suspension line, as suggested by Lhota, with the system and method of Binder, Vadlakonda, Rossetti et al., Hosaka et al., Freeman et al., and Lemke, with the motivation being to give a cable extra support.

8. Claims 7 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda, Rossetti et al., Hosaka et al., Freeman et al., and in further view of Elms et al. (U.S. Pat. 5677974).

With respect to claims 7 and 8, the combination of Binder, Vadlakonda, Rossetti et al., Hosaka et al., and Freeman et al. does not disclose a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable.

With respect to claims 7 and 8, Elms et al., in the field of communications, discloses a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable **(See the abstract of Elms et al. for reference to a hybrid cable having a hollow conduit for optical fiber installation that is self supporting and enclosed by a sheath)**. Using a

cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable has the advantage of allowing optical fiber to be installed in the same cable as electrical wiring.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Elms et al., to combine using a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable, as suggested by Elms et al., with the system and method of Binder, Vadlakonda, Rossetti et al., Hosaka et al., and Freeman et al., with the motivation being to allow optical fiber to be installed in the same cable as electrical wiring.

9. Claims 9-11 and 39 rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda, Rossetti et al., Hosaka et al., and in further view of Batruni et al. (U.S. Pat. 6215785 B1).

With respect to claims 9 and 39, Binder discloses high performance physical layer transceivers configured to operate over the UTP wiring pairs in full duplex switched packet transmission mode **(See column 3 lines 6-25 and claim 40 of Binder for reference to the network including transceivers that operate over the copper twisted pair wiring in a full duplex packet transmission mode)**. The combination of Binder, Rossetti et al., and Hosaka et al. does not disclose clocking at a lower rate than design specification.

With respect to claims 9 and 39, Batruni et al., in the field of communications, discloses clocking at a lower rate than design specification **(See column 3 lines 8-31 of Batruni et al. for reference to clocking data transmission at substantially lower rates)**. Clocking at a lower rate than design specification has the advantage of allowing transmission to be performed over a great distance **(See column 3 lines 8-31 of Batruni et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Batruni et al., to combine clocking at a lower rate than design specification, as suggested by Batruni et al., with the system and method of Binder, Vadlakonda, Rossetti et al., and Hosaka et al., with the motivation being to allow transmission to be performed over a great distance.

With respect to claim 10, Binder discloses transceivers configured to operate over the UTP wiring pairs in full duplex switched packet transmission mode **(See column 3 lines 6-25 and claim 40 of Binder for reference to the network including transceivers that operate over the copper twisted pair wiring in a full duplex packet transmission mode)**.

With respect to claim 11, Binder discloses using a plurality of UTP pairs for simultaneous trunking transmission in a common direction **(See column 7 line 49 to column 8 line 6 and Figure 8 of Binder for reference to using multiple twisted pairs to transmit data simultaneously in the same direction)**.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda, Rossetti et al. and in further view of Plyler et al. (U.S. Pat. 5145402).

With respect to claim 14, the combination of Binder, Vadlakonda, and Rossetti et al. does not disclose using a protective contact dielectric gel for the connectors.

With respect to claim 14, Plyler et al., in the field of communications, discloses using protective contact dielectric gel for connectors **(See column 3 line 61 to column 4 line 14 and claim 9 of Plyler et al. for reference to using a silicon dielectric gel within the contact area of connectors)**. Using protective contact dielectric gel has the advantage of sealing, protecting, and preserving electrical characteristics of the contact **(See column 4 lines 9-12 for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Plyler et al., to combine using protective contact dielectric gel, as suggested by Plyler et al., with the system and method of Binder, Vadlakonda, and Rossetti et al., with the motivation being to seal, protect, and preserve electrical characteristics of a contact.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Vadlakonda and Rossetti et al.

With respect to claim 17, Hosaka et al. discloses a cable comprising a first section including at least four twisted-wire pairs configured to carry data and a second section including at least a pair of insulated wires configured to carry power **(See**

column 1 lines 32-48 and Figure 4 of Hosaka et al. for reference to a cable including six unshielded twisted pair wires 31 in a first section surrounding two insulated power supply pair wires 32 in a second section). Hosaka et al. does not explicitly disclose a first end connector terminating the first portion and a second connector terminating the second portion. Hosaka et al. also does not specifically disclose a weather-resistant outer sheath surrounding the first and second sections.

With respect to claim 17, Vadlakonda, in the field of communications, discloses a cable carrying both power and data in parallel and having both a power connector and a separate data connector to connect power and data signals from the cable to a device **(See column 7 lines 24-35 and Figure 4b of Vadlakonda for reference to a cable including a six pin connector 101 having separate power pins and signal pins to separately connect power and data signals from the cable to a device)**. Using a power connector and a separate data connector has the advantage of allowing power and data signals carried within a cable to be separately and independently coupled to different parts of a device.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Vadlakonda, to combine using a power connector and a separate data connector, as suggested by Vadlakonda, with the system and method of Binder, with the motivation being to allow power and data signals carried within a cable to be separately and independently coupled to different parts of a device.

With respect to claim 17, Rossetti et al., in the field of communications, discloses an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions **(See column 4 lines 24-66, column 5 line 65 to column 6 line 9, and Figures 4 and 6 of Rossetti et al. for reference to an environmentally hardened network with connectors that provide protection against environmentally harsh conditions including EMI shielding and weather protection)**. Using an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions has the advantage of allowing network components to operate unhindered in an outdoor environment.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rossetti et al., to combine using an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions, as suggested by Rossetti et al., with the system and method of Hosaka et al. and Vadlakonda, with the motivation being to allow network components to operate unhindered in an outdoor environment.

12. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Vadlakonda and Rossetti et al. and in further view of Elms et al.

With respect to claims 18 and 19, the combination of Hosaka et al., Vadlakonda, and Rossetti et al. does not disclose a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber.

With respect to claims 18 and 19, Elms et al., in the field of communications, discloses a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber **(See the abstract and column 3 lines 53-58 of Elms et al. for reference to a hybrid cable having a hollow conduit for optical fiber installation that is enclosed by a sheath and for reference to a pulling ribbon, which is a messenger wire to support installation of the optical fiber)**. Using a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber has the advantage of allowing optical fiber to be installed in the same cable as electrical wiring.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Elms et al., to combine using a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber, as suggested by Elms et al., with the system and method of Hosaka et al., Vadlakonda, and Rossetti et al., with the motivation being to allow optical fiber to be installed in the same cable as electrical wiring.

13. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Vadlakonda and Rossetti et al. and in further view of Aslami et al. (U.S. Pat. 5369518).

With respect to claim 20, the combination of Hosaka et al., Vadlakonda, and Rossetti et al. does not specifically disclose the power section including a ground return line.

With respect to claim 20, Aslami et al., in the field of communications, discloses using a ground return line **(See column 4 lines 19-35 for reference to a cable using a earth ground return path, which is a ground return line)**. Using a ground return line has the advantage of protecting against short circuits.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Aslami et al., to combine using a ground return line, as suggested by Aslami et al., with the system and method of Hosaka et al., Vadlakonda, and Rossetti et al., with the motivation being to protect against short circuits.

14. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Vadlakonda, and Rossetti et al., and in further view of Lemke.

With respect to claim 21, the combination of Hosaka et al., Vadlakonda, and Rossetti et al. does not disclose foil sheathing and a drain wire.

With respect to claim 21, Lemke, in the field of communications, discloses a cable with foil sheathing and a drain wire **(See column 7 lines 25-44 of Lemke for**

reference to a cable with foil sheathing and a drain wire). Using foil sheathing and a drain wire has the advantage of protecting a cable against outside interference.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Lemke, to combine using foil sheathing and a drain wire, as suggested by Lemke, with the system and method of Hosaka et al., Vadlakonda, and Rossetti et al., with the motivation being to protect a cable against outside interference.

15. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Vadlakonda and Rossetti et al. and in further view of Belling (U.S. Pat. 3750281).

With respect to claim 22, the combination of Hosaka et al., Vadlakonda, and Rossetti et al. does not disclose including a suspension line bound to the cable.

With respect to claim 22, Belling, in the field of communications, discloses a cable including a removable suspension line **(See the abstract, column 3 lines 57-59, and Figure 4 of Belling for reference to using a removable suspension wire attached to a cable)**. Using a removable suspension line has the advantage of giving a cable extra support.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Belling, to combine using a removable suspension line, as suggested by Belling, with the system and method of Hosaka et al., Vadlakonda, and Rossetti et al., with the motivation being to give a cable extra support.

16. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda, Rossetti et al., Hosaka et al., and in further view of Heavey et al. (U.S. Pat. 4468571).

With respect to claims 28 and 29, the combination of Binder, Vadlakonda, Rossetti et al., and Hosaka et al. does not specifically disclose using a power control switch to control power on a bus based on commands as well as provide transient voltage protection.

With respect to claims 28 and 29, Heavey et al., in the field of communications, discloses using a power control switch to control power on a bus based on commands as well as provide transient voltage protection **(See the abstract and column 5 lines 25-36 of Heavey et al. for reference to using a switch to control voltage of a power line based on control signals and for reference to providing transient voltage protection)**. Using a power control switch to control power on a bus based on commands as well as provide transient voltage protection has the advantage of allowing power provided by a power line to be more tightly controlled and protected.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Heavey et al., to combine using a power control switch to control power on a bus based on commands as well as provide transient voltage protection, as suggested by Heavey et al., with the system and method of Hosaka et al., Vadlakonda, Rossetti et al., and Hosaka et al., with the motivation

being to allow power provided by a power line to be more tightly controlled and protected.

17. Claim 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Binder (U.S. Pat. 7200152 B2) in view of Vadlakonda (U.S. Pat. 6109971).

With respect to claim 32, Binder discloses a system comprising a first means for carrying data and power **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a wire, which is a first means, transmitting both data and power)**. Binder also discloses a fourth means sending and receiving data through the first means and sending power to a node of the network through the first means **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to node 70, which is a second means, sending and receiving data through the wire as well as sending power to other network nodes through the wire)**. Although Binder does disclose connecting the first means to a data connection and a power connection **(See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to connections terminating both power and data signals at a network node)**, Binder does not explicitly disclose a first means having both a second means connecting the first means to a data connection and a third means connecting the first means to a power connection.

With respect to claim 32, Vadlakonda, in the field of communications, discloses a cable carrying both power and data in parallel and having both a power connector and a separate data connector to connect power and data signals from the cable to a device

(See column 7 lines 24-35 and Figure 4b of Vadlakonda for reference to a cable including a six pin connector 101 having separate power pins and signal pins to separately connect power and data signals from the cable to a device). Using a power connector and a separate data connector has the advantage of allowing power and data signals carried within a cable to be separately and independently coupled to different parts of a device.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Vadlakonda, to combine using a power connector and a separate data connector, as suggested by Vadlakonda, with the system and method of Binder, with the motivation being to allow power and data signals carried within a cable to be separately and independently coupled to different parts of a device.

18. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Vadlakonda, Rossetti et al., Hosaka et al., and in further view of Elms et al..

With respect to claim 36, the combination of Binder, Vadlakonda, Rossetti et al., and Hosaka et al. does not disclose a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable.

With respect to claim 36, Elms et al., in the field of communications, discloses a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable **(See the abstract of**

Elms et al. for reference to a hybrid cable having a hollow conduit for optical fiber installation that is self supporting and enclosed by a sheath). Using a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable has the advantage of allowing optical fiber to be installed in the same cable as electrical wiring.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Elms et al., to combine using a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable, as suggested by Elms et al., with the system and method of Binder, Vadlakonda, Rossetti et al., and Hosaka et al., with the motivation being to allow optical fiber to be installed in the same cable as electrical wiring.

Response to Arguments

19. Applicant's arguments with respect to claims 1-12, 14, and 17-39 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON E. MATTIS whose telephone number is (571)272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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